

REMARKS

In the final Office Action, the Examiner rejects claims 13, 16, and 17 under 35 U.S.C. § 102(a) as allegedly anticipated by Schleimer et al., “Winnowing: Local Algorithms for Document Fingerprinting,” published June 9, 2003 (hereinafter “SCHLEIMER”); rejects claims 1, 2, 5, 6, 8, 11, 20, 24, and 26-28 under 35 U.S.C. § 103(a) as allegedly unpatentable over SCHLEIMER; rejects claims 1-2, 5-8, and 10 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,745,900 to Burrows (hereinafter “BURROWS”) in view of U.S. Patent Application Publication No. 2002/0133499 to Ward et al. (hereinafter “WARD”) and SCHLEIMER; rejects claims 3, 4, 11, and 12 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS, WARD and SCHLEIMER, and further in view of U.S. Patent Application No. 6,230,155 to Broder et al. (hereinafter “BRODER”); rejects claims 13, 16, and 17 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of WARD; rejects claims 14 and 15 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and WARD, and further in view of BRODER; rejects claim 20 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of SCHLEIMER; rejects claims 22 and 23 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and SCHLEIMER, and further in view of Charikar, “Similarity Estimation Techniques from Rounding Algorithms”, published May 19, 2002 (hereinafter “CHARIKAR”); rejects claims 24-29 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and SCHLEIMER and further in view of WARD; rejects claims 31, 32 and 34 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and WARD and further in view of SCHLEIMER; rejects claims 9, 18-19, and 30 under 35 U.S.C. § 103(a) as allegedly

unpatentable over BURROWS, WARD and SCHLEIMER, and further in view of OFFICIAL NOTICE; rejects claim 19 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and WARD and further in view of OFFICIAL NOTICE; rejects claims 30 and 33 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS, SCHLEIMER, and WARD and further in view of OFFICIAL NOTICE; and rejects claim 21 under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of OFFICIAL NOTICE. Applicant respectfully traverses these rejections.

By way of this Amendment, Applicant proposes amending claims 1, 3-4, 6-15, 17-20, and 22-34 to improve form, cancelling claims 2, 10, 16, and 27 without prejudice or disclaimer, and adding new claims 35-36. No new matter would be added by the present amendment. Claims 1, 3-9, 11-15, and 18-36 would remain pending upon entry of the present amendment.

The finality of the Office Action

At the outset, Applicant submits that the finality of the Office Action, dated August 19, 2008, is improper and should be withdrawn.

Applicant challenged Examiner's taking of OFFICIAL NOTICE with respect to claims 9, 18, 21, 30, and 33 and requested that the Examiner provide a reference disclosing that the features recited in claims 9, 18, 21, 30, and 33 were well known at the time of the invention. Since the Examiner has not provided such references, the finality of the Office Action, dated August 19, 2008, is improper and should be withdrawn.

Rejection under 35 U.S.C. § 102(a) based on SCHLEIMER

Pending claims 13 and 17 stand rejected under 35 U.S.C. § 102(a) as allegedly anticipated by SCHLEIMER. Applicant respectfully traverses this rejection.

A proper rejection under 35 U.S.C. § 102 requires that a reference teach every aspect of the claimed invention. Any feature not directly taught must be inherently present. See M.P.E.P. § 2131. SCHLEIMER does not disclose the combination of features recited in Applicants' claims 13 and 17.

Independent claim 13, amended as proposed, is directed to a method for generating a fingerprint of a document that includes sampling the document to obtain a plurality of overlapping samples; generating a set of checksum values for the plurality of overlapping samples; selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values; and setting bits in the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit. SCHLEIMER does not disclose or suggest this combination of features.

For example, SCHLEIMER does not disclose or suggest selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values, as recited in claim 13, amended as proposed. The Examiner relies on Section 3 of SCHEIMER for allegedly disclosing

“choosing a subset of overlapping blocks” (final Office Action, p. 7). Claim 13 does not recite choosing a subset of overlapping blocks. Claim 13, amended as proposed, specifically recites selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values. Nevertheless, Applicant submits that this section (or any other section) of SCHLEIMER does not disclose or suggest the above feature of claim 13, amended as proposed.

Section 3 of SCHLEIMER, which describes Figs. 2(a)-2(g) of SCHLEIMER, discloses the winnowing algorithm for selecting fingerprints from hashes of k -grams. In the example of Fig. 2(a)-2(g) of SCHLEIMER, a set of overlapping 5-grams is generated from a set of text (Fig. 2(c) of SCHLEIMER). A sequence of hashes is then generated from the sequence of 5-grams (Fig. 2(d) of SCHLEIMER). Next, a sequence of overlapping windows of the hashes is generated (Fig. 2(e) of SCHLEIMER), followed by the selection of the minimum hash from each window (Fig. 2(f) of SCHLEIMER). This sequence of minimum hashes becomes the fingerprint of the text.

This section of SCHLEIMER does not disclose or suggest selecting a predetermined number of smallest checksum values or a predetermined number of largest checksum values. Rather, this section of SCHLEIMER discloses selecting the minimum hash value in each window. Therefore, this section of SCHLEIMER cannot disclose or suggest selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values, as recited in claim 13, amended as proposed.

In the Response to Arguments section of the final Office Action, the Examiner alleges that on p. 1, 2nd column, 1st paragraph, SCHLEIMER discloses the selection of samples with the formula “0 mod p, for some fixed p,” and that this modulus function allegedly allows for a predetermined number of samples (final Office Action, p. 4). Applicant submits that claim 13 does not recite selecting a predetermined number of samples. Rather, claim 13 specifically recites selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values.

Furthermore, SCHLEIMER does not disclose or suggest setting bits in the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 13, amended as proposed. For example, SCHLEMER does not disclose, suggest, or even mention addressing bits in a fingerprint of a document with particular values.

For at least the foregoing reasons, Applicant submits that claim 13 is not anticipated by SCHLEIMER. Accordingly, Applicant respectfully requests that the rejection of claim 13 under 35 U.S.C. § 102(a) based on SCHLEIMER be reconsidered and withdrawn.

Claim 17 depends from claim 13. Therefore, this claim is not anticipated by SCHLEIMER for at least the reasons set forth above with respect to claim 13.

Accordingly, Applicant respectfully requests that the rejection of claim 17 under 35 U.S.C. § 102(a) based on SCHLEIMER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on SCHLEIMER

Pending claims 1, 2, 5, 6, 8, 11, 20, 24, 26 and 28 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over SCHLEIMER. Applicant respectfully traverses this rejection.

Independent claim 1, amended as proposed, is directed to a method for generating a fingerprint a document that includes obtaining a plurality of overlapping blocks by sampling the document; generating a set of checksum values for the plurality of overlapping blocks; choosing a subset of the set of checksum values, where the subset is less than an entirety of the set of checksum values; and compacting the subset of the set of checksum values to obtain the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit. SCHLEIMER does not disclose or suggest this combination of features.

For example, SCHLEIMER does not disclose or suggest compacting a subset of a set of checksum values to obtain a fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 1, amended as proposed. The Examiner relies on Fig. 2(e) and Section 3 of

SCHLEIMER for allegedly disclosing “compacting the subset of overlapping blocks to obtain the representation of the document” (final Office Action, p. 8). Applicant submits that these sections (or any other sections) of SCHLEIMER do not disclose or suggest the above feature of claim 1, amended as proposed.

Section 3 of SCHLEIMER, which describes Figs. 2(a)-2(g) of SCHLEIMER, discloses the winnowing algorithm for selecting fingerprints from hashes of k -grams. In the example of Fig. 2(a)-2(g) of SCHLEIMER, a set of overlapping 5-grams is generated from a set of text (Fig. 2(c) of SCHLEIMER). A sequence of hashes is then generated from the sequence of 5-grams (Fig. 2(d) of SCHLEIMER). Next, a sequence of overlapping windows of the hashes is generated (Fig. 2(e) of SCHLEIMER), followed by the selection of the minimum hash from each window (Fig. 2(f) of SCHLEIMER). This sequence of minimum hashes becomes the fingerprint of the text.

This section of SCHLEIMER does not disclose or suggest addressing bits in the fingerprint with particular values. Rather, this section of SCHLEIMER discloses selecting the fingerprint by selecting the minimum hash value in each window. Furthermore, this section of SCHLEIMER teaches away from addressing bits in the fingerprint with particular values by showing a particular value being assigned to different positions in the fingerprint. For example, Fig. 2(g) of SCHLEIMER depicts the value 17 at three different positions of the fingerprint. Furthermore, nothing in this section of SCHLEIMER could be reasonably construed as flipping bits in the fingerprint, let alone where a number of times a particular bit is flipped being based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit. Therefore, this section of SCHLEIMER cannot disclose or suggest

compacting a subset of a set of checksum values to obtain a fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 1, amended as proposed.

In the Response to Arguments section of the final Office Action, the Examiner alleges, with respect to the argument regarding claim 2, that storing in memory the results of the fingerprint generation satisfies the requirements of the claim language (final Office Action, p. 4). Applicant respectfully submits that storing in memory the results of fingerprint generation does not satisfy the requirements of claim 1, amended as proposed.

For example, storing a fingerprint result in memory requires setting the bits of the memory to those of the fingerprint result. However, the bits of the memory are not addressed by particular values. In other words, after storing the fingerprint result in the memory, one could not read a particular bit of the memory and determine, based on whether the particular bit is 0 or 1, whether a particular value occurred in the fingerprint.

For at least the foregoing reasons, Applicant submits that claim 1 is patentable over SCHLEIMER. Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103(a) based on SCHLEIMER be reconsidered and withdrawn.

Pending claims 5, 6, 8 and 11 depend from claim 1. Therefore, these claims are patentable over SCHLEIMER for at least the reasons set forth above with respect to claim 1. Accordingly, Applicant respectfully requests that the rejection of claims 5, 6, 8, and 11 under 35 U.S.C. § 103(a) based on SCHLEIMER be reconsidered and withdrawn.

Independent claims 20 and 26 recite features similar to, yet possibly of different scope than, features recited above with respect to claim 1. Therefore, these claims are patentable over SCHLEIMER for at least the reasons set forth above with respect to claim 1. Accordingly, Applicant respectfully requests that the rejection of claims 20 and 26 under 35 U.S.C. § 103(a) based on SCHLEIMER be reconsidered and withdrawn.

Claim 24 depends from claim 20. Therefore, this claim is patentable over SCHLEIMER for at least the reasons set forth above with respect to claim 20. Accordingly, Applicant respectfully requests that the rejection of claim 24 under 35 U.S.C. § 103(a) based on SCHLEIMER be reconsidered and withdrawn.

Claim 28 depends from claim 26. Therefore, this claim is patentable over SCHLEIMER for at least the reasons set forth above with respect to claim 26. Accordingly, Applicant respectfully requests that the rejection of claim 28 under 35 U.S.C. § 103(a) based on SCHLEIMER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER

Pending claims 1 and 5-8 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of WARD and SCHLEIMER. Applicant respectfully traverses this rejection.

Independent claim 1, amended as proposed, is directed to a method for generating a fingerprint a document that includes obtaining a plurality of overlapping blocks by sampling the document; generating a set of checksum values for the plurality of overlapping blocks; choosing a subset of the set of checksum values, where the subset is less than an entirety of the set of checksum values; and compacting the subset of the set

of checksum values to obtain the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit. BURROWS, WARD, and SCHLEIMER, whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, BURROWS, WARD, and SCHLEIMER do not disclose or suggest compacting the subset of the set of checksum values to obtain the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 1, amended as proposed. The Examiner relies on Fig. 5 of BURROWS for allegedly disclosing “compacting the subset of overlapping blocks to obtain the representation of the document” (final Office Action, p. 12). Applicant submits that this section (or any other section) of BURROWS does not disclose or suggest the above feature of claim 1, amended as proposed.

Fig. 5 of BURROWS, described in col. 9, lines 33-41 of BURROWS, shows a view of the words and metawords produced by the parsing module of BURROWS. The parsing module produces a sequence of pairs in a collating order according to the location of the words of various pages.

Fig. 5 of BURROWS does not disclose or suggest anything about addressing bits in a fingerprint with particular values or flipping bits of a fingerprint. In fact, BURROWS merely discloses that a fingerprint 255 consists of an integer value generated

by applying a one-way polynomial, as described above. Therefore, this section of BURROWS does not disclose or suggest compacting a subset of a set of checksum values to obtain a fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 1, amended as proposed.

In rejecting claim 10, the Examiner also relies on Fig. 5 of WARD for allegedly disclosing “flipping bits in the representation of the document when the bit corresponds to a block in the subset of plurality of overlapping blocks” (final Office Action, p. 14). Applicant submits that this section (or any other section) of WARD does not disclose or suggest the above feature of claim 1, amended as proposed.

Fig. 5 of WARD depicts a logic flow diagram of a beat tracking algorithm. The Examiner alleges that since the representation is stored in memory or on a disk, bits are set based on the overlapping blocks (final Office Action, p. 14). This section of WARD does not disclose or suggest addressing bits in the fingerprint with particular values. For example, storing a fingerprint result in memory requires setting the bits of the memory to those of the fingerprint result. However, the bits of the memory are not addressed by particular values. In other words, after storing the fingerprint result in the memory, one could not read a particular bit of the memory and determine, based on whether the particular bit is 0 or 1, whether a particular value occurred in the fingerprint. Therefore, this section of WARD does not disclose or suggest flipping a bit in the fingerprint when the particular value addressed to the bit corresponds to one of the blocks in the subset.

Therefore, this section of WARD cannot disclose or suggest compacting a subset of a set of checksum values to obtain a fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 1, amended as proposed.

SCHLEIMER does not overcome the deficiencies of BURROWS and WARD set forth above with respect to this feature of claim 1.

Therefore, even if SCHLEIMER were to be combined with BURROWS and WARD, the combination would not disclose or suggest each of the features of claim 1. Further, even if for the sake of argument, the combination of BURROWS, WARD, and SCHLEIMER could be fairly construed to disclose or suggest each of the features of claim 1, Applicant asserts that the reasons for combining BURROWS, WARD, and SCHLEIMER do not satisfy the requirements of 35 U.S.C. § 103.

For example, with respect to the reasons for combining BURROWS and WARD the Examiner alleges (final Office Action, p. 12):

It would have been obvious to a person of ordinary skill in the art to use the window overlapping sampling of Ward et al. with the method of Burrows because it allows for quicker indexing and a higher accuracy of the resulting samples.

With respect to SCHLEIMER, the Examiner alleges (final Office Action, p. 13):

It would have been obvious to a person of ordinary skill in the art at the time of invention to reorder the steps of Schleimer et al. because it leads to improved efficiency.

Applicant submits that the Examiner's allegations are merely conclusory statements of alleged benefits of the combination. Such conclusory statements have been repeatedly held to be insufficient for establishing a *prima facie* case of obviousness. In this respect,

Applicant relies upon KSR International Co. v. Teleflex Inc., 550 U.S. ____ (April 30, 2007) (citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)), where it was held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

Moreover, the Examiner has not provided a reason for combining WARD and BURROWS with SCHLEIMER. Therefore, a prima facie case of obviousness with respect to claim 1 has not been established.

For at least the foregoing reasons, Applicant submits that claim 1 is patentable over BURROWS, WARD, and SCHLEIMER. Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER be reconsidered and withdrawn.

Pending claims 5-8 depend from claim 1. Therefore, these claims are patentable over BURROWS, WARD, and SCHLEIMER, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 1. Accordingly, Applicant respectfully requests that the rejection of claims 5-8 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER, and BRODER

Claims 3, 4, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS, WARD and SCHLEIMER as applied to claim 1, and further in view of BRODER. Applicant respectfully traverses this rejection.

Claims 3, 4, 11, and 12 depend from claim 1. Without acquiescing in the Examiner's rejection of claims 3, 4, 11, and 12, Applicant submits that BRODER does not overcome the deficiencies of BURROWS, WARD and SCHLEIMER set forth above with respect to claim 1. Therefore, these claims are patentable over BURROWS, WARD, SCHLEIMER, and BRODER, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 1. Accordingly, Applicant respectfully requests that the rejection of claims 3, 4, 11, and 12 under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER, and BRODER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS and WARD

Pending claims 13 and 17 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of WARD. Applicant respectfully traverses this rejection.

Independent claim 13, amended as proposed, is directed to a method for generating a fingerprint of a document that includes sampling the document to obtain a plurality of overlapping samples; generating a set of checksum values for the plurality of overlapping samples; selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest

checksum values or a predetermined number of largest checksum values; and setting bits in the fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit. BURROWS and WARD, whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, BURROWS and WARD do not disclose or suggest selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values, as recited in claim 13, amended as proposed. The Examiner relies on Fig. 4 of BURROWS for allegedly disclosing “choosing a subset of overlapping blocks” (final Office Action, p. 16). Claim 13 does not recite choosing a subset of overlapping blocks. Claim 13 specifically recites selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values. Applicant submits that Fig. 4 (or any other section) of BURROWS does not disclose or suggest the above feature of claim 13, amended as proposed.

Fig. 4 of BURROWS, which is described in col. 7, line 41 to col. 9, line 32, depicts a block diagram of content attributes generated by the search engine. Fig. 4 shows portions of a page, labeled as 230, 240, 250, and 260, which are detected and encoded by a parsing module. The parsing module generates attribute values for entire

pages, portions of a page, fields, or individual words and the parser stores these attribute values as searchable metawords. The fingerprint 255 of Fig. 4 can be one of these metawords. BURROWS specifically discloses that fingerprint 255 can be produced by applying one-way polynomial functions to the digitized content of the document (col. 8, lines 16-23 of BURROWS). This section of BURROWS does not disclose or suggest anything about selecting a predetermined number of checksum values. Therefore, this section of BURROWS cannot disclose or suggest selecting a predetermined number of the set of checksum values as those of the checksum values corresponding to a predetermined number of smallest checksum values or a predetermined number of largest checksum values, as recited in claim 13, amended as proposed.

WARD does not overcome the deficiencies of BURROWS set forth above with respect to claim 13.

Furthermore, BURROWS and WARD do not disclose or suggest setting bits in a fingerprint of the document by addressing bits in the fingerprint with particular values and flipping bits in the fingerprint, where a number of times a particular bit is flipped is based on a number of checksum values in the subset that correspond to the particular value addressed to the particular bit, as recited in claim 13, amended as proposed. For example, BURROWS and WARD do not disclose, suggest, or even mention addressing bits in a fingerprint of a document with particular values.

Therefore, even if WARD were to be combined with BURROWS, the combination would not disclose or suggest each of the features of claim 13. Further, even if for the sake of argument, the combination of BURROWS and WARD could be fairly construed to disclose or suggest each of the features of claim 13, Applicant asserts

that the reasons for combining BURROWS and WARD do not satisfy the requirements of 35 U.S.C. § 103.

For example, with respect to the reasons for combining BURROWS and WARD the Examiner alleges (final Office Action, p. 16):

It would have been obvious to a person of ordinary skill in the art to use the window overlapping sampling of Ward et al. with the method of Burrows because it allows for quicker indexing and a higher accuracy of the resulting samples.

Applicant submits that the Examiner's allegation is merely a conclusory statement of an alleged benefit of the combination. Such conclusory statements have been repeatedly held to be insufficient for establishing a *prima facie* case of obviousness. In this respect, Applicant relies upon KSR International Co. v. Teleflex Inc., 550 U.S. ____ (April 30, 2007) (citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)), where it was held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

For at least the foregoing reasons, Applicant submits that claim 13 is patentable over BURROWS and WARD, whether taken alone or in any reasonable combination. Accordingly, Applicant respectfully requests that the rejection of claim 13 under 35 U.S.C. § 103(a) based on BURROWS and WARD be reconsidered and withdrawn.

Pending claim 17 depends from claim 13. Therefore, this claim is patentable over BURROWS and WARD for at least the reasons set forth above with respect to claim 13. Accordingly, Applicant respectfully requests that the rejection of claim 17 under 35 U.S.C. § 103(a) based on BURROWS and WARD be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, and BRODER

Claims 14 and 15 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and WARD and further in view of BRODER. Applicant respectfully traverses this rejection.

Claims 14 and 15 depend from claim 13. Without acquiescing in the Examiner's rejection of claims 14 and 15, Applicant submits that BRODER does not overcome the deficiencies of BURROWS and WARD set forth above with respect to claim 13. Therefore, these claims are patentable over BURROWS, WARD, and BRODER, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 13. Accordingly, Applicant respectfully requests that the rejection of claims 14 and 15 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and BRODER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS and SCHLEIMER

Claim 20 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of SCHLEIMER. Applicant respectfully traverses this rejection.

Independent claim 20, amended as proposed, recites features similar to, yet possibly of different scope than, features recited above with respect to claim 1. Therefore, claim 20 is patentable over BURROWS and SCHLEIMER, whether taken alone or in any reasonable combination, for at least reasons similar to the reasons set forth above with respect to the rejection of claim 1 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER. Accordingly, Applicant respectfully requests

that the rejection of claim 20 under 35 U.S.C. § 103(a) based on BURROWS and SCHLEIMER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and CHARIKAR

Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and SCHLEIMER, and further in view of CHARIKAR. Applicant respectfully traverses this rejection.

Claims 22 and 23 depend from claim 20. Without acquiescing in the Examiner's rejection of claims 22 and 23, Applicant submits that CHARIKAR does not overcome the deficiencies of BURROWS and SCHLEIMER set forth above with respect to claim 20. Therefore, claims 22 and 23 are patentable over BURROWS, SCHLEIMER, and CHARIKAR, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 20. Accordingly, Applicant respectfully requests that the rejection of claims 22 and 23 under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and CHARIKAR be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and WARD

Pending claims 24-26, and 28-29 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS and SCHLEIMER, and further in view of WARD. Applicant respectfully traverses this rejection.

Claims 24-25 depend from claim 20. Without acquiescing in the Examiner's rejection of claims 24-25, Applicant submits that WARD does not overcome the deficiencies of BURROWS and SCHLEIMER set forth above with respect to claim 20.

Therefore, claims 24-25 are patentable over BURROWS, SCHLEIMER, and WARD, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 20. Accordingly, Applicant respectfully requests that the rejection of claims 24-25 under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and WARD be reconsidered and withdrawn.

Independent claim 26, amended as proposed, recites features similar to, yet possibly of different scope than, features recited above with respect to claim 1. Therefore, claim 26 is patentable over BURROWS, SCHLEIMER, and WARD, whether taken alone or in any reasonable combination, for at least reasons similar to the reasons set forth above with respect to the rejection of claim 1 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER. Accordingly, Applicant respectfully requests that the rejection of claim 26 under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and WARD be reconsidered and withdrawn.

Pending claims 28-29 depend from claim 26. Therefore, claims 28-29 are patentable over BURROWS, SCHLEIMER, and WARD, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 26. Accordingly, Applicant respectfully requests that the rejection of claims 28-29 under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and WARD be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER

Independent claim 31, amended as proposed, recites features similar to, yet possibly of different scope than, features recited above with respect to claim 13. Without

acquiescing in the Examiner's rejection, Applicant submits that SCHLEIMER does not overcome the deficiencies of BURROWS and WARD set forth above with respect to claim 13. Therefore, claim 31 is patentable over BURROWS, WARD, and SCHLEIMER, whether taken alone or in any reasonable combination, for at least reasons similar to the reasons set forth above with respect to claim 13. Accordingly, Applicant respectfully requests that the rejection of claim 31 under 35 U.S.C. § 103(a) based on BURROWS, SCHLEIMER, and WARD be reconsidered and withdrawn.

Claim 32 depends from claim 31. Therefore, claim 32 is patentable over BURROWS, WARD, and SCHLEIMER, whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 31. Accordingly, Applicant respectfully requests that the rejection of claim 32 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER be reconsidered and withdrawn.

Independent claim 34, amended as proposed, is directed to a computer-implemented device that includes memory to store instructions for implementing means for sampling a document to obtain a plurality of overlapping blocks, means for calculating checksum values for the plurality of overlapping blocks, means for choosing a subset of the calculated checksum values, where the subset is less than an entirety of the calculated checksum values, and where the subset functions as an effective digest of the document, means for hashing the checksum values in the subset to a predetermined size; and means for setting bits in a fingerprint of the document by flipping bits in the fingerprint, where a particular bit in the fingerprint is addressed with a particular hashed checksum value, and where a number of times the particular bit in the fingerprint is

flipped corresponds to a number of times the particular hashed checksum value occurs in the subset; and a processor to execute the instructions in memory. BURROWS, WARD, and SCHLEIMER, whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, BURROWS, WARD, and SCHLEIMER do not disclose or suggest means for setting bits in a fingerprint of the document by flipping bits in the fingerprint, where a particular bit in the fingerprint is addressed with a particular hashed checksum value, and where the number of times the particular bit in the fingerprint is flipped corresponds to the number of times the particular hashed checksum value occurs in the subset, as recited in claim 34, amended as proposed. The Examiner relies on Fig. 5 of BURROWS for allegedly disclosing “setting bits in the representation of the document based on the subset of the overlapping blocks” (final Office Action, p. 24). Applicant submits that this section (or any other section) of BURROWS does not disclose or suggest the above feature of claim 34, amended as proposed.

Fig. 5 of BURROWS, described in col. 9, lines 33-41 of BURROWS, shows a view of the words and metawords produced by a parsing module. The parsing module produces a sequence of pairs in a collating order according to the location of the words of various pages. Fig. 5 of BURROWS does not disclose or suggest anything about a particular bit in a fingerprint being addressed with a particular hashed checksum value or anything about flipping bits in a fingerprint. In fact, BURROWS merely discloses that a fingerprint 255 consists of an integer value generated by applying a one-way polynomial, as described above. Therefore, this section of BURROWS cannot disclose or suggest

means for setting bits in a fingerprint of the document by flipping bits in the fingerprint, where a particular bit in the fingerprint is addressed with a particular hashed checksum value, and where the number of times the particular bit in the fingerprint is flipped corresponds to the number of times the particular hashed checksum value occurs in the subset, as recited in claim 34, amended as proposed.

WARD and SCHLEIMER do not overcome the deficiencies of BURROWS set forth above with respect to claim 34.

Therefore, even if SCHLEIMER were to be combined with BURROWS and WARD, the combination would not disclose or suggest each of the features of claim 34. Further, even if for the sake of argument, the combination of BURROWS, WARD, and SCHLEIMER could be fairly construed to disclose or suggest each of the features of claim 34, Applicant asserts that the reasons for combining BURROWS, WARD, and SCHLEIMER do not satisfy the requirements of 35 U.S.C. § 103.

For example, with respect to the reasons for combining BURROWS and WARD the Examiner alleges (final Office Action, p. 24):

It would have been obvious to a person of ordinary skill in the art to use the window overlapping sampling of Ward et al. with the method of Burrows because it allows for quicker indexing and a higher accuracy of the resulting samples.

With respect to SCHLEIMER, the Examiner alleges (final Office Action, pp. 24-25):

It would have been obvious to a person of ordinary skill in the art at the time of invention to reorder the steps of Schleimer et al. because it leads to improved efficiency.

Applicant submits that the Examiner's allegations are merely conclusory statements of alleged benefits of the combinations. Such conclusory statements have been repeatedly held to be insufficient for establishing a *prima facie* case of obviousness. In this respect, Applicant relies upon KSR International Co. v. Teleflex Inc., 550 U.S. ____ (April 30,

2007) (citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)), where it was held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

Moreover, the Examiner has not provided a reason for combining WARD and BURROWS with SCHLEIMER. Therefore, a prima facie case of obviousness with respect to claim 34 has not been established.

For at least the foregoing reasons, Applicant submits that claim 34 is patentable over BURROWS, WARD, and SCHLEIMER. Accordingly, Applicant respectfully requests that the rejection of claim 34 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and SCHLEIMER be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER and

OFFICIAL NOTICE

Claims 9, 18, 30, and 33 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of WARD and SCHLEIMER and further in view of OFFICIAL NOTICE. Applicant respectfully traverses this rejection.

At the outset, Applicant will address the Examiner's allegation with respect to the taking of OFFICIAL NOTICE in the Response to Arguments section of the final Office Action. In the Amendment, dated May 8, 2008, Applicant traversed the Examiner's use of OFFICIAL NOTICE with respect to claims 9, 18, 21, 30, and 33 and requested that the Examiner provide references to support the Examiner's allegations that the features recited in these claims were well known at the time of Applicant's invention. The

Examiner alleges that Applicant's traversal is inadequate because Applicant has not specifically and clearly pointed out the deficiencies of the knowledge possessed by a person of ordinary skill in the art and why it would not be in the common body of knowledge (final Office Action, p. 6). Applicant disagrees with the Examiner's allegation.

M.P.E.P. 2144.03 (A) states:

Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). (emphasis added)

Therefore, Applicant submits that an assertion that the features recited in claims 9, 18, 21, 30, and 33 are not well known or capable of instant and unquestionable demonstration as being well known and the request by Applicant for the Examiner to provide a reference is an adequate challenge of an OFFICIAL NOTICE. The burden has been shifted on the Examiner to provide documentary evidence to support the Examiner's assertion.

Claim 9 depends from claim 1. Without acquiescing in the Examiner's rejection of claim 9, Applicant submits that the Examiner's taking of OFFICIAL NOTICE does not overcome the deficiencies of BURROWS, WARD, and SCHLEIMER set forth above with respect to claim 1. Therefore, this claim is patentable over BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 1. Moreover, Applicant is not aware of any references that disclosed, at the time of Applicant's invention, that hashing a subset of a set of checksum values,

which includes taking a number of least significant bits of the subset of the set of checksum values, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that hashing a subset of a set of checksum values, which includes taking a number of least significant bits of the subset of the set of checksum values, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of claim 9 under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE be reconsidered and withdrawn.

Claim 18 depends from claim 13. The Examiner's taking of OFFICIAL NOTICE and SCHLEIMER do not overcome the deficiencies of BURROWS and WARD set forth above with respect to claim 13. Therefore, this claim is patentable over BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 13. Moreover, Applicant is not aware of any references that disclosed, at the time of the invention, that hashing a predetermined number of the checksum values, which includes taking a number of least significant bits of the predetermined number of checksum values, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that hashing a predetermined number of the checksum values, which includes taking a number of least significant bits of the predetermined number of checksum values, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of claim 18 under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE be reconsidered and withdrawn.

Claim 30 depends from claim 27. The Examiner's taking of OFFICIAL NOTICE and SCHLEIMER do not overcome the deficiencies of BURROWS and WARD set forth above with respect to claim 27. Therefore, this claim is patentable over BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 27. Moreover, Applicant is not aware of any references that disclosed, at the time of the invention, that means for compacting a subset of the set of checksum values includes means for flipping bits in a fingerprint when the particular value addressed to a bit corresponds to a particular one of a hashed version of the checksum values, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that means for compacting a subset of the set of checksum values includes means for flipping bits in a fingerprint when the particular value addressed to a bit corresponds to a particular one of a hashed version of the checksum values, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of claim 30 under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER, and OFFICIAL NOTICE be reconsidered and withdrawn.

Claim 33 depends from claim 32. The Examiner's taking of OFFICIAL NOTICE does not overcome the deficiencies of BURROWS, WARD, and SCHLEIMER set forth above with respect to claim 32. Therefore, this claim is patentable over BURROWS, WARD, SCHLEIMER and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 32. Moreover, Applicant is not aware of any references that disclosed, at the time of the invention, that hashing a predetermined number of the checksum values includes taking a number of least significant bits of the predetermined

number of checksum values, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that hashing a predetermined number of the checksum values includes taking a number of least significant bits of the predetermined number of checksum values, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of claim 33 under 35 U.S.C. § 103(a) based on BURROWS, WARD, SCHLEIMER, and OFFICIAL NOTICE be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS, WARD, and OFFICIAL NOTICE

Claim 19 depends from claim 13. The Examiner's taking of OFFICIAL NOTICE does not overcome the deficiencies of BURROWS and WARD set forth above with respect to claim 13. Therefore, this claim is patentable over BURROWS, WARD and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 13. Moreover, Applicant is not aware of any references that disclosed, at the time of the invention, that setting bits in a fingerprint of a document includes flipping a bit in the fingerprint of the document when the particular value addressed to the bit corresponds to a particular one of the hashed checksum values, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that setting bits in a fingerprint of a document includes flipping a bit in the fingerprint of the document when the particular value addressed to the bit corresponds to a particular one of the hashed checksum values, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of

claim 19 under 35 U.S.C. § 103(a) based on BURROWS, WARD, and OFFICIAL NOTICE be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) based on BURROWS and OFFICIAL NOTICE

Claim 21 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over BURROWS in view of OFFICIAL NOTICE. Applicant respectfully traverses this rejection.

Claim 21 depends from claim 20. The Examiner's taking of OFFICIAL NOTICE does not overcome the deficiencies of BURROWS set forth above with respect to claim 20. Therefore, this claim is patentable over BURROWS and OFFICIAL NOTICE for at least the reasons set forth above with respect to claim 20. Moreover, Applicant is not aware of any references that disclosed, at the time of the invention, that a search engine to return documents to a user as a single link when the documents are determined to correspond to near-duplicate documents, was well known in the art. Applicant respectfully requests that the Examiner provide a reference that discloses that a search engine to return documents to a user as a single link when the documents are determined to correspond to near-duplicate documents, was well known in the art at the time of Applicant's invention. For at least the foregoing reasons, Applicant respectfully requests that the rejection of claim 21 under 35 U.S.C. § 103(a) based on BURROWS and OFFICIAL NOTICE be reconsidered and withdrawn.

New dependent claims 35 and 36

New dependent claims 35 and 36 depend from claim 34. Therefore, these claims are patentable over the applied references for at least the reasons set forth above with respect to claim 34.

Conclusion

In view of the foregoing proposed amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of this application, and the timely allowance of the proposed pending claims. Moreover, Applicant respectfully requests entry of the proposed amendment because the proposed amendment places the present application in condition for allowance. In addition, Applicant respectfully submits that entry of this proposed amendment would place the application in better form for appeal in the event that the application is not allowed.

As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, reasons to modify a reference and/or to combine references, assertions as to dependent claims, etc.) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such assertions/requirements in the future.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the

filing of this paper, including extension of time fees, to Deposit Account No. 50-1070

and please credit any excess fees to such deposit account.

Respectfully submitted,

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